

IPAD Paperless Work Control for Test Complex Facilities Management

Completed Technology Project (2012 - 2012)



Project Introduction

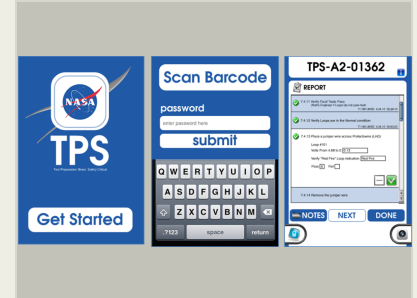
The purpose of this project was to identify a way to improve the work control processes used at Stennis Space Center that are traditionally done via paper by creating a paperless system that can be used on a mobile device such as a smart phone or tablet. The concept proposed entailed using tablet devices to conduct work control. Additionally, there was a mobile software tool available that the engineering work force at Stennis was already familiar with, in the personal computer (PC) based form, had been used extensively in the test complex until approximately 2 years ago when a change in processes incorporated use of another system. However, this new system was not set up for a paperless\tablet environment. Therefore, the proposed investigation was developed to examine the use of the mobile software with tablet, not as a replacement for the current system, but rather an extension of the current work control process system.

Specifications for the mobile application were developed and included features such as: Password security - Login based security settings associated with user, password entry required for user login Schematics and Images – Users will have the ability to view schematics and images that relate to the selected/open job and job site. Users will also be able to take and upload a photograph of the job site Supervisor Notification – A completed job will generate a notification to the supervisor. Barcode scanner - Ability to scan barcode or Quick Response (QR) code to access user information Job Tracking - Job information will be input in a document form or through a step-by-step method

This project created a pilot version of the software tool work control system to run on a tablet by modifying the existing template and beginning an initial investigation into the processes needed to make the mobile software tool work well with the existing database. A tablet and the mobile software was used in conjunction with software currently owned by Stennis. From an Information Technology (IT) security standpoint, proper implementation strategies (e.g. Secured Wi-Fi, 3G cellular networks, and docking stations) were considered for field use of the system. A representative from IT security helped facilitate discussions for proper implementation strategies with support from developers to assess feasibilities of such strategies. Primary project objectives included the following: Create a pilot version of the work control system to run on a tablet by modifying an existing template Begin an initial investigation into the processes needed to make the control system work well with the existing database. From an IT security standpoint, consider proper implementation strategies (e.g. Secured Wi-Fi, 3G cellular networks, and docking stations) for field use of such a system.

Anticipated Benefits

Benefits to NASA funded missions include providing a means to increase productivity and efficiency that would reduce the man hours required to



Mobile App Screen Shot
Developed for iOS Platform

Table of Contents

Project Introduction	1
Anticipated Benefits	1
Organizational Responsibility	1
Primary U.S. Work Locations and Key Partners	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	2
Images	3

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

Center Innovation Fund: SSC CIF

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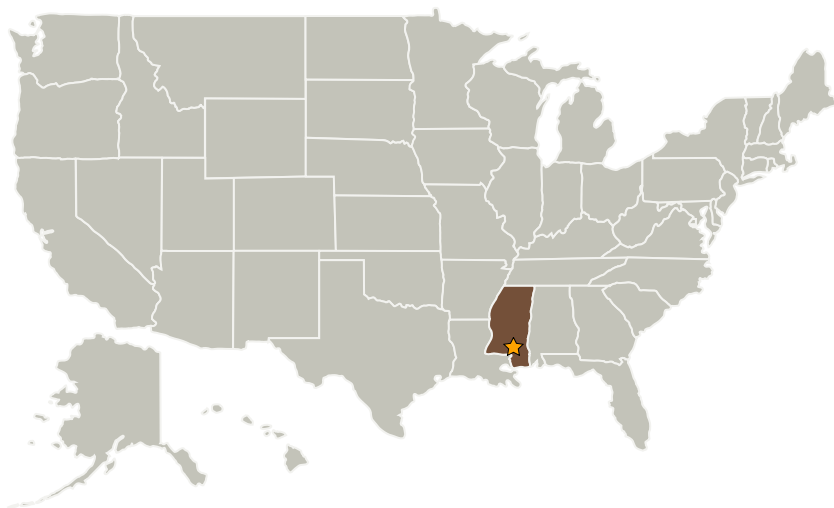
complete the test preparation process, as well as improve the timeliness and accuracy of the test documentation. Process improvements like this could help SSC focus more on its primary mission of rocket engine testing and position the center for long term future success and facilitate the center's ability to continue meeting agency goals and objectives.

Additional benefits include:

- Environmentally– less paper consumed and less waste generated
- Improved processes – “lost” paperwork becomes a non-issue; the possibility of real-time tracking of progress becomes enabled
- Time savings – large reduction in copy machine time and cost, as well as negating scanning time required for completed work control process paper documents that would then ultimately be stored digitally

The use of the technology would further improve record keeping capabilities and decrease workloads for administrative personnel.

Primary U.S. Work Locations and Key Partners



Project Management

Program Director:

Michael R Lapointe

Program Manager:

Ramona E Travis

Project Manager:

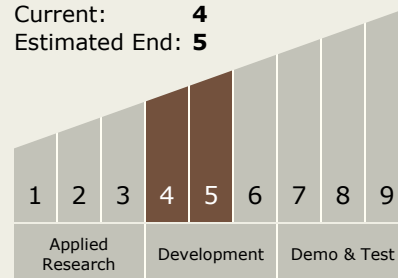
Andrew W Guymon

Principal Investigator:

Andrew W Guymon

Technology Maturity (TRL)

Start: 4
Current: 4
Estimated End: 5



Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
 - └ TX13.1 Infrastructure Optimization
 - └ TX13.1.5 Ground and Surface Logistics

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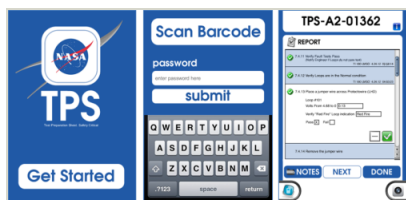


Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi

Primary U.S. Work Locations

Mississippi

Images



Tablet Paperless Work Control for SSC Test Complex

Mobile App Screen Shot Developed for iOS Platform
(<https://techport.nasa.gov/image/3977>)